AMENDMENTS TO THE CLAIMS:

The listing of claims will replace all prior versions, and listings of claims in the application:

LISTING OF THE CLAIMS

1. (Currently Amended) ~~A~~ The battery ~~comprising:~~

~~an anode;~~

~~a cathode; and~~

~~an electrolyte therebetween, at least one of the anode and cathode comprising an electrically conductive sponge material, the electrically conductive sponge material defining~~ of claim 10, wherein the dendrites ~~having~~ have a width of less than 1 micrometer.

2. (Currently Amended) The battery of claim [[1]] 7, wherein the ~~at least one of the anode and cathode~~ substrate comprises an electrically conductive substrate which is in electrical contact with the electrically conductive sponge material.

3. (Currently Amended) The battery of claim [[2]] 7, wherein the substrate is in the form of a foil, wire, ribbon, cast structure, or sheet.

4. (Currently Amended) The battery of claim [[2] 7, wherein the substrate and the electrically conductive sponge are formed from the same material.

5. (Currently Amended) The battery of claim [[2]] 7, wherein the substrate includes a metal selected from the group consisting of silver, copper, and aluminum.

6. (Currently Amended) A battery comprising:

an anode;

a cathode; and

an electrolyte therebetween, at least one of the anode and cathode comprising an electroconductive substrate and an electrically conductive sponge material, the sponge material being in the form of particles of sponge attached to the substrate.

7. (Previously Presented) A battery comprising:

an anode

a cathode; and

an electrolyte therebetween, at least one of the anode and cathode comprising a substrate and an electrically conductive sponge material, the sponge material being in the form of a layer of sponge grown on the substrate.

8. (Currently Amended) The battery of claim [[1]] 7, wherein the at least one of the anode and cathode comprises a plurality of thin layers of the electrically conductive sponge material.

9. (Currently Amended) The battery of claim [[1]] 7, wherein the electrically conductive sponge material includes an element selected from the group consisting of copper, silver, gold, aluminum, and combinations thereof.

10. (Previously Presented) The battery of claim 7, wherein the electrically conductive sponge material defines dendrites.

11. (Previously Presented) The battery of claim 10, wherein the dendrites have a width of from about 200 nanometers to 30 micrometers.

12. (Currently Amended) The battery of claim [[10]] 7, wherein the ~~at least one of the anode and cathode includes at least one substrate layer and wherein the~~ dendrites extend from the substrate.

13. (Previously Presented) The battery of claim 12, wherein the dendrites extend generally perpendicularly from the substrate layer.

14. Currently Amended) The battery of claim [[1]] 7, wherein the sponge material is coated with an electrically conductive material.

15. (Withdrawn) A method of forming the battery of **claim 7**, the method comprising:

growing a sponge material having a plurality of open pores which are accessible to the electrolyte; and

forming the at least one of the anode and the cathode from the grown sponge.

16. (Withdrawn) The method of claim 15, wherein the sponge material includes one of the group consisting of Li, Be, Mg, Al, Si, Ca, Sc, Ti, V, Cr, Mn, Fe, Co, Ni, Cu, Zn, Ge, Sr, Y, Zr, Nb, Mo, Rh, Pd, Ag, Cd, In, Sn, Sb, Te, Ba, La, Ce, Pr, Nd, Pm, Sm, Eu, Gd, Tb, Dy, Ho, Er, Tm, Yb, Lu, Hf, Ta, W, Rh, Os, Ir, Pt, Au, Tl, Pb, Bi, Po, and combinations thereof.

17. (Withdrawn) The method of claim 15, wherein the step of growing the sponge includes:

reducing a compound to its elemental form, the elemental form occupying a smaller volume than the compound such that an open porous structure is formed.

18. (Withdrawn) The method of claim 17, wherein the step of growing the sponge includes:

heating a substrate to a deposition temperature;

contacting the substrate with a vapor which includes a halide of the sponge material in the presence of an alkali or earth alkali metal vapor, the sponge halide vapor reacting with the alkali or earth alkali metal vapor to form the sponge material and an alkali or earth alkali metal halide, the sponge material being deposited on the substrate in the form of dendrites.

19. (Withdrawn) The method of claim 18, further comprising:

removing the alkali or earth alkali metal halide from the sponge material by vacuum distillation.

20. (Withdrawn) The method of claim 15, wherein the step of growing the sponge includes:

heating the sponge material **(86, 114)** with an insoluble material **(88, 116)** to a temperature at which the sponge material and the insoluble material are both liquids, the sponge material and the insoluble material being mutually insoluble at a temperature at which the sponge material freezes;

mixing the two liquids;

cooling the sponge material and the insoluble material to form the sponge; and

removing the insoluble material from the sponge.

21. (Withdrawn) The method of claim 20, wherein the step of cooling includes:

cooling the sponge material and the insoluble material adjacent a substrate to form a directionally grown sponge of the sponge material on the substrate.

22. (Withdrawn) The method of claim 20, wherein the sponge material comprises an element selected from the group consisting of Mg, Al, Si, Zn, Ga, Ge, As, Se, Cd, In, Sn, Sb, Cv, Ni, Ag, Ti, Te, Tl, Pb, Bi, and alloys thereof.

23. (Withdrawn) The method of claim 21, wherein the insoluble substance is selected from the group consisting of Na, K, Rb, Cs, Ca, Sr, Ba, and salts thereof.

24. (Withdrawn) The method of claim 17 wherein the step of growing the sponge material includes:

forming an oxide scale on a substrate, the substrate including a metal which is oxidizable to an oxide having a lower density than the substrate, by oxidizing at least an outer portion of the substrate to form the oxide scale; and

reducing the oxide scale to the metal, the metal having an open porous structure.

25. (Withdrawn) The method of claim 24, wherein the step of reducing includes:

reducing the oxide with a reducing agent; and

the method further including after the step of reducing:

removing an oxide of the reducing agent from the porous metal.

26. (Withdrawn) The method of claim 25, wherein the oxide of the reducing agent is a fluid.

27. (Currently Amended) ~~A~~ The battery of claim 7, wherein ~~comprising:~~

~~an anode;~~

~~a cathode;~~

~~an electrolyte therebetween, at least one of the anode and cathode comprising an electrically conductive metal sponge,~~ the metal sponge ~~having~~ has a high specific surface area that is accessible to reactants with reaction paths that are no larger than two times the sponge thickness.

28. (Withdrawn) A metal sponge with a geometry of open porosity between dendrites that enables through-flow of gas or liquid with an electrical resistance that is at least two times less than that of an ordinary sintered powder sponge.

29 (Currently Amended) ~~A~~ The battery of claim 10, further comprising:

~~an anode;~~

~~a cathode;~~

~~an electrolyte therebetween, at least one of the anode and cathode comprising an electrically conductive sponge material the electrically conductive sponge material defining dendrites; and~~

a layer of a different material on the dendrites which spaces the dendrites from the electrolyte.

30. (Previously Presented) The battery of claim 29 and wherein the sponge defines pores having a pore width of less than 30 micrometers, the layer of a different material covering the sides of the pores to provide a passage for access of the electrolyte.

31. (Previously Presented) The battery of claim 29, wherein the dendrites have a width of less than 30 micrometers in thickness.

32. (Currently Amended) ~~A~~ The battery of claim 7, wherein ~~comprising:~~

~~an anode;~~

~~a cathode;~~

~~an electrolyte therebetween, at least one of the anode and cathode comprising an electrically conductive sponge material, the electrically conductive sponge material defining dendrites,~~ the sponge ~~having~~ has a specific surface area of at least $40m^2/cm^3$.